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Substance Use and Abuse Among Adolescent Runaways: A Four-Year Follow-Up Study

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Using data from the National Longitudinal Study Youth Survey (NLSY), runaway status in early adolescence (ages 14–15) was associated with subsequent (four years later) substance abuse, alcohol problems, and school dropout status. Three runaway categories were formed—never runaway, runaway once, and runaway two or more times. Overall, the repeat runaways reported engaging in higher levels of substance use and abuse than never and once runaways. However, some degree of gender specificity in the relationships for repeat runaways and substance abuse was found. Female repeat runaways were particularly susceptible to abusing illicit drugs (and not alcohol), whereas male repeat runaways manifested a more generalized susceptability to abusing alcohol, cigarettes, marijuana, and other illicit drugs. Whereas substance use and abuse were linearly associated with runaway status, both the one-time and repeat runaways manifested equivalent proportions of school dropouts, and at levels far exceeding never runaways. Results are discussed with regard to the heterogeneous developmental pathways leading toward and away from adolescent runaways.

INTRODUCTION

Research on adolescent runaways has tended to focus on antecedents and correlates of running away, and to a lesser extent on short- and long-term associations and consequences (Adams and Munro, 1979; Young *et al.*, 1983). However, whether studying antecedents and correlates, or subsequent

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associations and consequences, it is clear that diversity, or heterogeneity, more adequately captures the phenomena of running away than do accounts that emphasize uniformity and homogeneity (e.g., Brennan *et al.,* 1978). As such, simplistic causal characterizations of runaways as psychopaths, sociopaths, or "healthy," to name just a few, have yielded to typological approaches that seek to distinguish more precisely among runaways along dimensions such as motivations for running away (e.g., crisis escapists, casual hedonists), whether the adolescent is a runaway vs. a "throwaway," and whether the runaway is a repeater or a one-time runaway (e.g., Brennan *et al.,* 1978; Olson *et al.,* 1980).

General survey findings (e.g., Brennan *et al.,* 1978) regarding runaways suggest that about one-half of adolescent runaways stay within the community, finding shelter with relatives or friends. Further, about 50% of runaways return home within a few days, and most (75–80%) return home within a week. Salient reasons for running away include poor school performance, parental conflict, pregnancy, depression, and loneliness. However, there is a considerable minority of runaways who stay away for much longer time intervals (sometimes never returning home), and who, in some instances, are at high risk for economic exploitation by others (e.g., prostitution), for alcoholism and substance abuse, and for other problem behaviors (e.g., criminality). Public health concerns for this high-risk group of runaways recently have been intensified by concern over some of these problematic behaviors and their associated risk for AIDS and other health-related conditions (Yates *et al.,* 1988).

In describing adolescent runaway behavior as a risk factor for subsequent problematic behavior, some investigators (e.g., Robins and O'Neal, 1959) have suggested that runaway behavior is just one kind of delinquent activity among other similarly expressed delinquent activities (e.g., truancy, stealing) by some youths. Other investigators (e.g., Loeber *et al.,* 1983) have focused more upon different patterns of adolescent delinquent activities (e.g., stealers vs. aggressors) for the prediction of specific adult outcomes. A major question for research on runaways is whether runaway status is simply another manifestation of a unitary problem behavior syndrome, or "deviance proneness" (Jessor and Jessor, 1977), or whether it confers something unique on our understanding of the development of adolescent runaways. Robins and O'Neal (1959) reported that running away was not predictive of adult adjustment *if* juvenile history was controlled, but that running away was a highly potent, single predictor of adult adjustment.

Many previous studies of adolescent runaways have been limited because of small sample sizes, nonrepresentative samples (e.g., clinic populations), and single occasion of measurement research designs. In the current study, secondary analysis of data from the National Longitudinal Survey

of Youth (NLSY) is used to investigate differences between adolescents who have never runaway, adolescents who have runaway once, and adolescents who have runaway two or more times. More specifically, differences between these runaway groups are assessed with respect to (a) background factors (e.g., father's education) and personal attributes (e.g., self-esteem), and (b) longitudinal relations between runaway status in early adolescence and alcohol and illicit drug use four years later. Although admittedly limited with respect to the full range of antecedent and consequent factors associated with runaways, the NLSY provides a large, nationally representative sample of adolescents to investigate possible differences between the three runaway categories, including adequate sampling of males and females and of three ethnic/racial groups.

METHOD

Subjects

The sampling design of the NLSY consisted of a national probability sample of 5700 females and 5700 males between the ages of 14 and 21 in 1979, with an oversampling of blacks, Hispanics, and economically disadvantaged whites. The sample was assessed annually from 1979 through 1985, with a retention rate of 95% across the seven waves of measurement. Initial funding for NLSY was from the U.S. Department of Labor, although other U.S. Federal agencies (e.g., National Institute of Alcoholism and Alcohol Abuse, National Institute of Drug Abuse, U.S. Department of Justice) later commissioned for the inclusion of questions of relevance for the particular agencies. Therefore, some of the items used in the survey changed at different measurement occasions. For example, questions pertaining to illicit substances were included primarily in the 1984 interview. Similarly, questions pertaining to running away and other delinquent activity were included only in 1980.

The focus for this study was with those participants aged 14 and 15 in 1980, when survey items pertaining to early adolescent runaway and other delinquent behaviors were assessed, and with their follow-up data in 1984 pertaining to alcohol and drug use and to dropout status. Although delinquent activity items were available for all participating subjects in the NLSY, the runaway item was requested only of those subjects who were younger than age 16 in the 1980 measurement occasion. This provided a maximum sample size of 1254 males and 1157 females (for some analyses, sample size was trivially reduced due to missing values). With respect to ethnic/racial group, 18% of the sample was Hispanic, 25% was black, and 57% was white.

Measurement of Key Variables

Verbal Intelligence was formed by summing the raw scores of the following Armed Services Vocational Aptitude Battery (ASVAB) subtests: Word Knowledge (Vocabulary), Paragraph Comprehension, Arithmetic Reasoning, and one-half of Numerical Operations. This composite score has been used by the U.S. military service for purposes of selection and classification, and is noted for reliability estimates in excess of .90. This test was administered in 1980 only. The content of the subtests reflect a strong verbal intelligence component (see Bock and Moore, 1986, pp. 173–200, for a detailed discussion of ASVAB).

Self-Esteem was assessed by 10 items from Rosenberg's Self-Esteem Scale (Rosenberg, 1965), with higher summed scores indicating *lower* self-esteem.

Alcohol Consumption was expressed in terms of the average number of alcoholic beverages consumed per day over the past 30 days.

Aggressive Behaviors represent the summation of three dichotomous, *yes–no* questions about feeling aggressive or angry while drinking, getting into a heated argument while drinking, and getting into a fight while drinking.

Dependency Symptoms represent the summation of eight dichotomous, *yes–no* questions pertaining to inability to reduce drinking, fear of becoming an alcoholic, difficulty in stopping drinking before becoming intoxicated, having blackouts, drinking first thing in the morning, hands shaking in the morning after drinking, getting drunk while drinking by yourself, and breaking promises not to drink.

The response format for the *illegal lifetime drug use* variables was a 6-point Likert scale, with the response options (0–5) being *never used, 1–9 occasions, 10–39 occasions, 40–99 occasions, 100–999 occasions,* and *1000 or more occasions.* Although there is some empirical data (e.g., Huba, 1983; Hays and Huba, 1988) suggesting that in many instances, substantive conclusions are not radically altered whether using multipoint Likert scales vs. their continuous-scale counterparts with drug use variables, we sought to develop continuous drug use variables so that the resulting numbers would be more meaningful in the sense of knowing more precisely on how many occasions illicit drugs were used. A conservative assignment of numbers corresponding to the Likert scale responses was used. The number 5 (the midpoint) was recoded for those responses marked 1 (indicative of 1–9 occasions). The numbers 11, 41, 101, and 1001 were recoded for those responses marked 2 (indicative of 10–39 occasions), 3 (indicative of 40–99 occasions), 4 (indicative of 100–999 occasions), and 5 (indicative of 1000 or more occasions), respectively.

Two illicit substance use variables were derived—*Marijuana,* which represented the lifetime number of occasions in which marijuana or hashish

were used; *Illicit Substances,* which represented the summation of the lifetime number of occasions of using amphetamines, psychedelics, cocaine, and inhalants, barbiturates, or sedatives, tranquilizers, heroin, and (nonprescribed) narcotics (e.g., codeine, demerol, morphine, methadone, darvon, opium). *Cigaratte* use was also measured with respect to the average number of cigarettes smoked per day over the last 30 days.

A recoding of item responses similar to what was done for drug use variables was done for 19 *delinquent behavior* items in order to form continuous measurement scales. A conservative assignment of numbers corresponding to the 7-point (0–6) Likert scale responses was used. The number 4 (the midpoint) was recoded for those responses marked 3 (indicative of 3–5 times). The numbers 8, 12, and 51 were recoded for those responses marked 4 (indicative of 6–10 times), 5 (indicative of 11–50 times), and 6 (indicative of more than 50 times), respectively. Two delinquency indexes were formed by summing the responses of various items from the list of 19 delinquent behaviors. The kinds of delinquent behaviors included in the total list ranged from relatively mild (e.g., truancy, drank alcohol without parental permission) to more severe (e.g., stealing an automobile, attacking someone with the intent of seriously hurting or killing them). *Delinquency Index-1* consisted of the summation of responses for 14 delinquency items, none of which included reference to substance use. *Delinquency Index-2* consisted of the summation of the responses for all 19 delinquency items, five of which included reference to substance use (e.g., consumed alcohol and/or consumed and sold marijuana or illegal drugs). *Runaway Status* also was included as a delinquency item, and three groups were formed, those reporting never running away, those reporting having runaway once, and those reporting running away two or more times.

RESULTS

Table I summarizes the distribution of adolescent runaways according to gender and ethnic/racial group. Approximately 10% of the sample reported running away at least once. The ratio of males to females for each ethnic/racial group was roughly proportional for each runaway status, with the exception that a larger proportion of Hispanic females ran away more often than Hispanic males. Although the data in Table I may suggest pooling across subjects, subsequent analyses were conducted separately for males and females because some research has suggested that the causal dynamics and developmental pathways for runaway males and females may be different (Adams and Munro, 1979).

In order to investigate possible differences between the three runaway status categories (never runaway, runaway once, and runaway two or more

Table I. Percentage (N) of Runaways by Gender and Ethnic/Racial Group[a]

Ethnic/racial group	Never		Once		Two or More Times	
	Males (n = 1139)	Female (n = 1024)	Males (n = 61)	Females (n = 69)	Males (n = 41)	Females (n = 50)
White	91.2 (641)	88.8 (570)	4.8 (34)	6.2 (40)	4.0 (28)	5.0 (32)
Black	93.1 (295)	93.5 (274)	4.7 (15)	4.4 (13)	2.2 (7)	2.0 (6)
Hispanic	91.9 (203)	86.5 (180)	5.4 (12)	7.7 (16)	2.7 (6)	5.8 (12)
Percentage of total sample	48	43	3	3	2	2

[a]Gender comparisons may be made by examining the respective column percentages of the total sample for each runaway status. Within-gender ethnic/racial group comparisons may be made by examining the respective row percentages for each runaway status.

times) on several antecedent and consequent factors, one-way analyses of variance (ANOVAs) were conducted. Table II provides a summary of the findings for male adolescents. By and large, differences between the three groups with respect to antecedents/personal attributes are small, with the mothers' education level among repeat runaways being somewhat lower and the repeat runaways' self-esteem being somewhat lower (note that higher self-esteem scores reflect lower self-esteem). The amount of delinquent activity in 1980 increased linearly with the runaway status categories, as repeat runaways engaged in the most delinquent activity, with rates 4–5 times those of never runaways, and rates about twice as high as once runaways. Although the three runaway groups differ significantly with respect to delinquent activity, the relative percentage of school dropouts indicates that both runaway groups differ dramatically from the never runaway group. The percentage of dropouts in the two runaway groups is approximately double that of the never runaway group.

Regarding alcohol consumption and alcohol problems (aggressive behaviors and dependency symptoms), the repeat runaways differ significantly from the never and once runaway groups. That is, repeat runaways are consuming more alcohol (averaging 37.5 drinks per month), are involved in more alcohol-related aggressive behavior, and are reporting more dependency symptoms than never and once runaways. Similarly, with regard to illicit drug usage, repeat runaways report lifetime number of occasions of using illicit substances at rates 7–12 times the number of occasions reported by never and once runaways. Cigarette usage manifests a linear trend, with repeat runaways smoking the most cigarettes in the last 30 days. For lifetime marijuana usage, repeat runaways and one-time runaways report the highest levels of usage, although even the never runaway group has used marijuana on a relatively large number of occasions (i.e., $\bar{x}$ = 347 occasions).

A somewhat similar pattern of relationships between runaway status categories and antecedents, personal attributes, and substance use indices

Table II. One-Way ANOVAs for Males: Substance Use and Delinquency by Runaway Status

Variables	Runaway status (1980) Never runaway (N = 1139)	Runaway once (N = 61)	Runaway two or more times (N = 41)	F test	Post hoc comparisons[b]
Antecedents/personal attributes					
Mother's education	9.91	9.31	8.10	3.36[c]	–
Father's education	8.84	8.03	8.39	ns	–
Verbal intelligence (1980)	58.64	52.50	52.87	3.57[c]	–
Self-esteem (1980)	18.54	19.67	20.58	7.99[e]	1,3
Delinquency[a] and dropout status					
Delinquency-Index 1 (1980)	16.89	32.97	60.88	30.02[e]	1,2; 1,3; 2,3
Delinquency-Index 2 (1980)	30.54	72.09	123.56	54.19[e]	1,2; 1,3; 2,3
Dropout status (1984)	21.90	42.10	37.50	$\chi^2(2) = 16.91$, $p < .001$	
Alcohol-related indices					
Alcohol consumption (1984)	.71	.64	1.25	6.25[d]	1,3; 2,3
Aggressive behaviors (1984)	.43	.34	1.05	10.74[e]	1,3; 2,3
Dependency symptoms (1984)	.49	.53	1.10	7.17[e]	1,3; 2,3
Other substance use indices					
Cigarettes (1984)	4.42	7.69	9.92	15.97[e]	1,2; 1,3
Marijuana (1984)	347.26	511.91	455.68	4.33[c]	1,2
Illicit drugs (1984)	18.75	35.71	256.70	13.29[e]	1,3; 2,3

[a]The Delinquency-Index 1 score consists of the mean frequency score of 14 delinquency items. The Delinquency-Index 2 score consists of the mean frequency score of the 14 items in Index 1, plus five items that pertain to the consumption of alcohol and the consumption and selling of illicit substances.
[b]Post hoc comparisons were made using Scheffé's procedure.
[c]$p < .05$.
[d]$p < .01$.
[e]$p < .001$.

was found for female adolescents, as indicated in Table III. Verbal intelligence and self-esteem were lower among female repeat runaways, especially in relation to never runaways. Delinquent activity among repeat runaways was significantly higher than for never and once runaways, with rates 3–4 times those of never runaways, and rates about 1½ times as high as once runaways. Similar to the male findings, female adolescents who runaway once, or those who runaway two or more times, have higher rates of drop-

Table III. One-Way ANOVAS for Females: Substance Use and Delinquency by Runaway Status

Variables	Runaway status (1980) Never runaway (N = 1024)	Runaway once (N = 69)	Runaway two or more times (N = 50)	F test	post hoc comparisons[b]
Antecedents/personal attributes					
Mother's education	10.15	8.55	9.82	4.63[d]	1,2
Father's education	9.04	7.10	8.48	3.59[c]	1,2
Verbal intelligence (1980)	61.10	57.39	51.19	6.79[d]	1,3
Self-esteem (1980)	18.56	19.32	20.58	5.87[d]	1,3
Delinquency[a] and dropout status					
Delinquency-Index 1 (1980)	7.93	14.74	25.63	19.06[e]	1,2; 1,3; 2,3
Delinquency-Index 2 (1980)	16.13	42.03	63.06	60.63[e]	1,2; 1,3; 2,3
Dropout status (1984)	17.50	40.30	46.80	$\chi^2(2) = 41.92$, $p < .001$	
Alcohol-related indices					
Alcohol consumption (1984)	.29	.29	.36	ns	—
Aggressive behaviors (1984)	.15	.25	.42	6.46[d]	1,3
Dependency symptoms (1984)	.17	.25	.35	ns	—
Other substance use indices					
Cigarettes (1984)	3.42	5.27	7.50	10.82[e]	1,3
Marijuana (1984)	296.83	370.36	424.63	ns	—
Illicit drugs (1984)	11.57	56.57	69.50	8.76[e]	1,2; 1,3

[a]The Delinquency-Index 1 score consists of the mean frequency score of 14 delinquency items. The Delinquency-Index 2 score consists of the mean frequency score of the 14 items in Index 1, plus five items that pertain to the consumption of alcohol and the consumption and selling of illicit substances.

[b]Post hoc comparisons were made using Scheffé's procedure.

[c]$p < .05$.

[d]$p < .01$.

[e]$p < .001$.

ping out of school than those female adolescents who never runaway. Also similar to the male adolescent findings, the percentage of dropouts in the two runaway groups is more than double that of the never runaway group.

With regard to alcohol consumption and alcohol problems, results differ for female adolescents in comparison with male adolescents. The three runaway groups do not differ for females with respect to alcohol consumption or to dependency symptoms, and post hoc comparisons indicate that repeat

runaways differ only from the never runaway group in regard to alcohol-related aggressive behaviors. Further, in comparing the mean levels of alcohol consumption, aggressive behaviors, and dependency symptoms for female and male adolescents, it is evident that males for each runaway group are consuming more alcohol and having more alcohol problems than the corresponding runaway group of females. Female repeat runaways smoke more cigarettes and consume more illicit substances than never runaways, and no statistically significant differences across female runaway groups were found with respect to lifetime marijuana usage.

In order to examine further differences between runaway status groups with regard to the *heavy or abusive use of substances* (rather than group differences in overall mean levels), a criterion for the abuse of each of the four substances was made. Alcohol abuse, or heavy drinking, was defined as the consumption of 60 or more alcoholic beverages in the last month. Heavy cigarette (tobacco) use was defined as smoking at least one pack of cigarettes per day. Heavy marijuana use was defined as having smoked marijuana on at least 100 occasions. Heavy illicit drug use was defined as having ingested illicit drugs on more than 20 occasions. Table IV summarizes the percentage of male and female adolescents abusing these four substances for the three runaway categories. The pattern for males and females is similar in that the largest percentage of abusers are found in the repeat runaway category. Gender differences in the percentage of abusers for the repeat runaways is also indicated, as many more males than females abuse alcohol, marijuana, and cigarettes, although gender similarities are indicated for the abuse of illicit drugs.

Table IV. Percentage of 1984 Heavy Drinkers and Substance Abusers by 1980 Runaway Risk Status

	Percentage of 1984 abusers[a]			
Runaway status (1980)	Alcohol	Cigarettes	Marijuana	Illicit drugs
Males				
Never runaway	10.1	15.7	16.6	9.1
Runaway once	5.2	27.6	29.3	20.7
Runaway two or more times	22.5	50.0	47.5	32.5
Females				
Never runaway	2.7	13.4	6.1	5.5
Runaway once	1.5	16.7	14.9	11.9
Runaway two or more times	6.3	31.3	29.2	25.0

[a]Abuse was defined in the following way for each substance: alcohol, an *average* of 2 or more alcoholic beverages per day in the preceding month; cigarettes, currently smoking at least one pack a day; marijuana, lifetime use in excess of 100 occasions; illicit, lifetime use in excess of 20 occasions. The percentage of substance abusers within the total sample for each substance was alcohol (7%), cigarettes (16%), marijuana (13%), and illicit (9%).

Table V. Partial Correlations for Runaway Status and Substance Use Holding Delinquency Constant

Substance use/ alcohol problems	Males		Females	
	Zero-order correlations	Partial correlations	Zero-order correlations	Partial correlations
Alcohol consumption (1984)	.09[b]	.02 (ns)	.03 (ns)	−.04 (ns)
Aggressive behaviors (1984)	.11[c]	.05[a]	.11[c]	.05 (ns)
Dependency symptoms (1984)	.09[c]	.05[a]	.07[b]	.01 (ns)
Cigarettes (1984)	.18[c]	.12[c]	.20[c]	.12[c]
Marijuana (1984)	.16[c]	.06[a]	.13[c]	.07[a]
Illicit drugs (1984)	.14[c]	.10[c]	.11[c]	.08[b]

[a] $p < .05$.
[b] $p < .01$.
[c] $p < .001$.

A final set of data analyses was conducted to examine the possible unique influence that running away may have, independent of general delinquency, on subsequent substance use and alcohol problems (Robins and O'Neal, 1959). Partial correlations were used to assess the association between runaway status and substance use and alcohol problems, controlling for Delinquency-Index 2. Table V provides a summary of these results. Not surprisingly, there is some decrement in the magnitude of the partial correlations relative to the zero-order correlations. However, for some of the substances, specifically cigarette use and illicit drug use, the partial correlations remain at a low but respectable and statistically significant level.

DISCUSSION

The results of this study are consistent with previous research (e.g., Brennan *et al.*, 1978; Olson *et al.*, 1980) in supporting the heterogeneity of runaway behavior, with special reference to distinctions between repeat runaways, one-time runaways, and never runaways. In general, the four-year follow-up data indicated that repeat runaways were engaging in higher levels of substance use/abuse than never and one-time runaways, and male repeat runaways reported more alcohol-related problems (i.e., aggressive behaviors and dependency symptoms). Further, repeat runaways had the highest levels of self-reported delinquent activity and high rates of dropping out of school. With regard to socioeconomic status, lower paternal and maternal education was not more highly associated with repeat runaways, thus suggesting that lower SES (to the extent that it is measured adequately by parental education), is no more characteristic of repeat runaways than never and one-time runaways. Repeat runaways reported lower levels of self-esteem than

never runaways, and among females, repeat runaways reported lower levels of verbal intelligence than never runaways. While these general findings do indeed indicate that repeat runaways are engaging in higher levels of problem behavior than never and one-time runaways, there are also some additional findings regarding gender similarities and differences, and the specificity of subsequent associations differentiating the three runaway status categories.

Similar to the previous adolescent literature regarding gender differences and alcohol behaviors (e.g., Rachal *et al.*, 1980; Thompson and Wilsnack, 1984), males consumed more alcohol and reported more alcohol problems than females for each of the three runaway categories. Even the female repeat runaways average alcohol consumption was less than the average alcohol consumption of the never runaway males. Therefore, heavy alcohol use and alcohol problems were not very discriminating among female runaway categories. Heavy alcohol use and alcohol problems were, however, discriminating among male runaway categories, as repeat runaways were consuming much more alcohol, manifesting more alcohol related problems, and a much larger percentage were classified as abusers or heavy drinkers than never and one-time runaways. In interpreting these gender differences, it should be noted that the age of onset for female alcohol abuse typically is much later than for males (e.g., Wanberg and Horn, 1970; Winokur and Clayton, 1968) and that the drinking patterns of subjects in this study may conform to this normative pattern. Furthermore, prior research (e.g., Janus *et al.*, 1987; Weisberg, 1985) has indicated that some runaways are physically and sexually abused, and that for some of these females (and males), this abuse is associated with heavy alcohol consumption and drug abuse in adolescence and adulthood. The roles of physical and sexual abuse on substance abuse cannot be addressed with the NLSY data, because physical and sexual abuse data were not collected. However, such cross-temporal linkages remain a consideration for future studies attempting to map the developmental pathways of female (and male) adolescent runaways.

With regard to gender similarities and differences in nonalcoholic substance use and abuse, three substantively interesting findings were reported. First, the comparison of cigarette use indicates that for both males and females, repeat runaways smoke the most and that the differences between males and females with respect to the percentage smoking are relatively small, thus corroborating previous research on cigarette use in adolescence (e.g., Ensminger *et al.*, 1982; National Institute of Education, 1979). However, a further analysis based on the heavy, or abusive, use of cigarettes (i.e., $\geq$ one pack of cigarettes per day) indicated that a much higher percentage of male runaways were heavy users of cigarettes than female runaways. Second, findings for marijuana use were similar to those found for cigarette use. Roughly comparable levels of usage between the gender groups were found,

but a larger percentage of abusers was reported among males. In addition, within-gender comparisons for the three runaway categories indicate similar levels of marijuana use for one-time and repeat runaways, but the abuse categories indicate much more marijuana abuse by repeat runaways. Third, males used illicit drugs more often than females, and repeat runaways used illicit drugs more often than never runaways for males and females, and more often than one-time runaways for males. Nevertheless, similar proportions of male and female repeat runaways abused illicit drugs. In sum, these findings suggest that female repeat runaways may be particularly susceptible to abusing illicit substances whereas male repeat runaways have a more generalized susceptibility to abusing alcohol, cigarettes, marijuana, and illicit drugs.

Although most of the research findings in this study suggest that repeat runaways are engaging in higher levels of substance use/abuse and alcohol-related problems than never and one-time runaways, the findings regarding school dropout indicated that one-time and repeat runaways were equally likely to dropout for both males and females, and at high levels of dropping out (37–47%). This is of interest to note because these similarities in dropout rate among one-time and repeat runaways cannot be attributed to preexisting similarities in delinquency (because they differ significantly), at least for the occasion of measurement when delinquency was assessed (i.e., 1980). Additionally, there are some differences in parental education levels for runaways vs. never runaways, but it is questionable whether these differences would be strong enough to account for the large differences in dropout rates. Two broad-level explanations may account for these findings. First, the four-year time interval between measurement occasions may have resulted in many one-time runaways becoming repeat runaways, and this portion of repeat runaways may also have had high rates of dropping out of school. However, the substance use data is not consistent with this explanation. Second, salient factors contributing to dropping out of school may be different than the factors contributing to substance use. As such, there may be some common and some different variables involved in the prediction of dropout status and in the prediction of substance use and abuse. The findings do, nevertheless, indicate a high risk for dropping out even among adolescents who runaway even once. Further research may be directed toward the uncovering of factors that account for these diverse outcomes associated with adolescent runaways.

A final research finding of substantive import in this study was the unique influence, or association, of runaways' status with the substance use and alcohol problem variables, "independent" of, or holding constant, the influence of general delinquent behavior (Robins and O'Neal, 1959). The magnitude of these associations was not high for the partial correlations, but the results indicated that even when general delinquency was statistically con-

trolled, runaway status was still significantly associated with the outcome variables, especially cigarette use and illicit drug use. This finding was found for both male and female adolescents. Thus, runaway status did provide something unique in predicting subsequent substance use and alcohol-related problems independent of general delinquency. This is not to suggest that the "best" way to conceptualize and measure runaway behaviors is to view them independently of general delinquency, but rather to suggest that patterns of running away merit attention independent of their contributory role to general delinquency.

In summarizing the results of this study, it is clear that much heterogeneity exists with respect to the developmental pathways of adolescent runaways. The study findings suggest that (a) repeat runaways are at high risk for substance use and abuse and for dropping out of school, (b) one-time runaways are using substances at higher rates than never runaways and are dropping out of school at rates equivalent to those of repeat runaways, and (c) there are similarities and differences in the patterns of cross-temporal associations for male and female runaways. Future research needs to incorporate a wider range of antecedent and contemporaneous factors associated with personal resources (e.g., temperament), with family and peer relations, and with school influences that impact upon the adolescent runaway. In addition, multiple outcome variables need to be assessed to capture the specificity of interrelationships across time and to understand the processes underlying the development of runaways as they confront the life tasks of adolescence, early adulthood, and beyond.

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